

Case 3253***Libellula aenea* Linnaeus, 1758 (currently *Cordulia aenea*) and *L. flavomaculata* Vander Linden, 1825 (currently *Somatochlora flavomaculata*; Insecta, Odonata): proposed conservation of usage of the specific names by the replacement of the lectotype of *L. aenea* with a newly designated lectotype**

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Abstract. The purpose of this application is to conserve, under Article 74.1 of the Code, the current usage of the names of two dragonfly species. In 1758, Linnaeus established the name *Libellula aenea* for three specimens. These have subsequently been recognized as belonging to two species: *L. aenea* and *L. flavomaculata* Vander Linden, 1825. In 1956, Fraser designated one of Linnaeus's specimens as the lectotype of *L. aenea*. However, the specimen he designated was the one used by Vander Linden to denote his species *L. flavomaculata*. Fraser's action made *L. aenea* a senior objective synonym of *L. flavomaculata*. It is proposed that one of Linnaeus's specimens other than the one selected by Fraser be designated as the lectotype of *L. aenea*, thus conserving prevailing usage of both names.

Keywords. Nomenclature; taxonomy; Insecta; Odonata; CORDULIIDAE; *Cordulia aenea*; *Somatochlora flavomaculata*; dragonflies.

1. Linnaeus (1758, p. 544) established the nominal species *Libellula aenea* with a short description 'L. thorace aeneo-viridi'. He cited three references: (1) *Fauna Svecica* (Linnaeus, 1746); (2) *Historia insectorum* (Raius [Ray], 1710); and (3) *Insecten-Behustigung* (Rösel von Rosenhof, 1749). The habitat was given as 'Europa'. In *Fauna Svecica* (1746), Linnaeus had included three specimens in a series, giving them the numbers 768 (one male specimen) and 769 (one male and one female specimen). He described the two groups of specimens separately and was clearly aware of their different characters: '[769] Præcedentis simillima, sed alia'. Nevertheless, he evidently considered all three specimens to be so alike that in the 10th edition of *Systema Naturae* he introduced only one name, *Libellula aenea*, to cover numbers 768 and 769, in addition to the cited references. In the 12th edition of *Systema Naturae* (1767, p. 902) Linnaeus also included both numbers under the name *L. aenea*. A critical review of the Raius (1710) and Rösel von Rosenhof (1749) references reveals that they both relate to the species represented by specimen no. 769.

2. Vander Linden (1825) evidently recognized the problem arising from Linnaeus's use of the single name *L. aenea* for two different taxa, and (p. 19) introduced the

name *L. flavomaculata* to denote the taxon represented by number 768 (male specimen), leaving number 769 as *L. aenea*. Vander Linden's action in establishing a new nominal species was in agreement with Linnaeus's view of 1746 and was accepted by the majority of contemporary workers, particularly Charpentier (1840, p. 91), Hagen (1840, p. 41) and de Selys Longchamps (1840, pp. 67, 210; 1850, p. 73). Both names as established by Linnaeus (1758) and Vander Linden (1825) are in prevailing use (see para. 5 below).

3. McLachlan (1898) took a contrary view and argued that specimen no. 768 was the only specimen representing *L. aenea*, but concluded his discussion by saying that in the interests of avoiding an 'intolerable nuisance' he wished to avoid any nomenclatural correction. Many years later, Fraser (1956, pp. 20–21) took up McLachlan's interpretation of the name *L. aenea* as denoting only specimen no. 768 and stated 'the type of *L. aenea* Linn. is a male [no. 768] labelled as [*L. aenea*] by Linnaeus himself and now in the Linnean collection, London'. This is a lectotype designation under Article 74.5. He considered the species under no. 769 to be unnamed and (p. 20) introduced the new name *Cordulia linaenea*.

4. Longfield (1957) pointed out that the introduction of the name *C. linaenea* was not only unjustified but also unnecessary since there were earlier available names in the synonymy of *L. aenea*. No one has adopted the name *C. linaenea*. Buchholz (1967, p. 234) rejected the name *C. linaenea* in favour of *C. aeneaturfosa*, which he attributed to Förster, 1902. Comments by Jurzitza (1969) and Schmidt (1978) have prevented a wider acceptance of Fraser's (1956) and Buchholz's (1967) nomenclatural actions.

5. The current prevailing use of the names *S. flavomaculata* and *C. aenea* as understood by Vander Linden (1825) is well documented in the extensive dragonfly literature of Eurasia, especially in systematic catalogues of world dragonflies (e.g. Davies & Tobin, 1985, p. 62; Tsuda, 1991, p. 132; Bridges, 1994, p. VIII.18; Steinmann, 1997, p. 255), in all international Odonata journals (e.g. the *International Journal of Odonatology*; *Odonatologica*), in field guides and red lists as well as in numerous odonatological books and papers dealing with biology, ecology and zoogeography, in regional and national check lists and in identification keys. There is a minority of central and eastern European authors who have followed Buchholz and use *C. aeneaturfosa* to denote the species under the Linnean no. 769; they apply the name *C. aenea* to the taxon represented by specimen no. 768. At present, only Hungarian authors depart from the prevailing usage.

6. In order to maintain the broad agreement on the retention of the use of the names *C. aenea* and *S. flavomaculata* we propose that the Commission should set aside Fraser's (1956) lectotype designation for *Libellula aenea*, and designate instead the female specimen in Linnaeus's no. 769.

7. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to set aside all type fixations for the nominal species *aenea* Linnaeus, 1758, as published in the binomen *Libellula aenea*, and to designate the female specimen no. 769 in the collection of the Linnean Society of London as the lectotype;
- (2) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *aenea* Linnaeus, 1758, as published in the binomen *Libellula aenea* and as defined by the lectotype designated in (1) above;

- (b) *flavomaculata* Vander Linden, 1825, as published in the binomen *Libellula flavomaculata* and as defined by Linnean specimen no. 768 described in paras. 1 and 2 above.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).